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OGILVY RENAULT 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			ALVO, MARC S	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 10-03-2003

Application Number: 09/994,075
Filing Date: November 27, 2003
Appellant(s): HUA ET AL

Kevin P. Murphy
For Appellant

EXAMINER'S ANSWER

MAILED

OCT 09 2003

GROUP 1700

This is in response to the appeal brief filed July 1, 2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of claims.*

The statement of the status of claims contained in the brief is correct, except claim 11 is allowed.

(4) *Status of Amendments After Final.*

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The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) ***Summary of invention.***

The summary of invention contained in the brief is correct.

(6) ***Issues.***

The appellant's statement of the issues in the brief is correct, except the rejection of claim 11 has been dropped.

(7) ***Grouping of claims.***

Appellant's brief includes a statement that claims 1-10, 12 and 20-25 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) ***Claims appealed.***

The copy of the appealed claims contained in the Appendix to the brief is correct, except the rejection of claim 11 has been dropped.

(9) ***Prior Art of record.***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

REFERENCES

U.S Patents

4,427,490	Eckert	01-1984
5,882,476	Evans et al	03-1999
4,183,146	Tsukamoto et al	01-1980

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2,173,167	Hovey, Rexford	09-1939
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H-0,001,690	Nye	11-1997
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Foreign Patents

96/20308	WO	07-1996
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0 608 687	EP	07-1994
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(10) ***New prior art.***

No new prior art has been applied in this examiner's answer.

(11) ***Grounds of rejection.***

The following grounds of rejection are applicable to the appealed claims.

Claims 1-7, 10, 11 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/20308 in view of ECKERT or EVANS et al.

WO 96/20308 teaches inhibiting the darkening effect arising from the effect of calcium carbonate filler (page 2, lines 6-26) in mechanical pulp by bleaching the filled mechanical pulp with any bleaching agent, including sodium hydrosulfite (page 4, lines 29-35). ECKERT teaches the alternativeness of bleaching mechanical pulp with hydrosulfites and bisulfites as reducing agents that remove or alter the lignin in the pulp so that the resultant pulp is no longer light absorbing or dark in color. It would have been obvious to substitute the bisulfite of ECKERT for the hydrosulfite of WO 96/20308, as they are alternative bleaching and brightening agents for mechanical pulps in preventing the darkening of the pulp. See Table 3 of WO 96/20308, for a pH of 8.8. Or EVANS et al teaches treating pulp including groundwood (column 2, line 17) with sodium carbonate and sodium sulfite to prevent alkaline darkening of the pulp (column 1, lines

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35-40) and reduce the need for additional bleaching (column 3, lines 49-51). It would have been obvious to one of ordinary skill in the art to further prevent darkening of the pulp and reduce the need for further bleaching in the process of WO 96/20308 by treating the pulp with sulfite and carbonate in the manner taught by EVANS et al. The order of addition has not been shown to be critical and it would have been obvious to add the carbonate and sulfite sequentially or simultaneously.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/20308 in view of ECKERT or EVANS et al as applied to claim 1 above, and further in view of TSUKAMOTO.

TSUKAMOTO et al teaches adjusting the pH during bleaching with either an acid or a buffering agent, see column 4, lines 12-28. It would have been obvious to maintain the pH of WO 96/20308 with either a buffering agent or the addition of an acid as taught by TSUKAMOTO.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/20308 in view of ECKERT or EVANS et al as applied to claim 1 above, and further in view of NYE or EP 0 608 687.

NYE (column 2, lines 6-9) or EO 0 608 687 teach increasing the whiteness of bleached pulp by adding a chelating agent with a reductive bleaching agent. It would have been obvious to use a chelating agent in combination with the reducing bleach agent of WO 96/20308 and/or ECKERT and/or EVANS et al to increase the whiteness of the pulp as taught by NYE (column 2, lines 6-9) or EO 0 608 687.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/20308 in view of ECKERT or EVANS et al as applied to claim 1 above, and further in view of ADMITTED PRIOR ART (specification, page 2, lines 13-21).

The addition of additives at the stock (machine) chest is well known in the art as evidenced by the ADMITTED PRIOR ART (specification, page 2, lines 13-21). It would have been obvious to add the carbonate and bleaching additives of WO 96/20308 at the machine chest as taught by the ADMITTED PRIOR ART.

Claims 1-8, 10 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over or HOVEY in view of TSUKAMOTO et al.

HOVEY teaches incorporating mechanical pulp with calcium carbonate filler to inhibit the alkaline darkening (page 4, column 1, lines 6-9) of mechanical pulp during the drying of the pulp (page 1, column 2, lines 28-33) and teaches that is preferred to reduce the pH to about 7.5, though it could be as high as 9 to 10. HOVEY teaches that the paper made by the process of the Patent produces paper slightly alkaline and as a consequence fades less rapidly than usual groundwood papers (page 4, column 1, lines 14-18). TSUKAMOTO et al teaches mechanical wood pulps can have their brightness increased by sulfonating the pulp in the drying stage with alkali and alkaline sulfite. It would have been obvious to one of ordinary skill in the art that the darkening of the mechanical pulp of HOVEY could be further prevented by adding a sulfonating agent, e.g. sodium sulfite, during the drying stage as taught by TSUKAMOTO et al to brighten the pulp. It would have been especially obvious to use the sodium sulfite in combination with the calcium carbonate of HOVEY as TSUKAMOTO et al teaches using the sulfite in combination with calcium carbonate buffers to control the pH to a pH of 8 to 10 when using a single sulfite. It is noted that the claims are not limited to when the sulfite is added. See HOVEY, page 4, lines 6-18 for teaching that calcium carbonate filler inhibits darkening of the

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pulp. Obviously the fading less rapidly of the paper is equivalent to the claimed inhibit darkening. See TSUKAMOTO et al for adjusting the pH with either an acid or a buffering agent, see column 4, lines 12-28.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over HOVEY in view of TSUKAMOTO et al as applied to claim 1 above, and further in view of NYE or EP 0 608 687.

NYE (column 2, lines 6-9) or EO 0 608 687 teach increasing the whiteness of bleached pulp by adding a chelating agent with a reductive bleaching agent. It would have been obvious to use a chelating agent in combination with the reducing bleach agent of HOVEY and/or TSUKAMOTO et al to increase the whiteness of the pulp as taught by NYE (column 2, lines 6-9) or EO 0 608 687.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over HOVEY in view of TSUKAMOTO et al as applied to claim 1 above, and further in view of ADMITTED PRIOR ART (specification, page 2, lines 13-21).

The addition of additives at the stock (machine) chest is well known in the art as evidenced by the ADMITTED PRIOR ART (specification, page 2, lines 13-21). It would have been obvious to add the carbonate and bleaching additives of HOVEY and/or TSUKAMTO at the machine chest as taught by the ADMITTED PRIOR ART.

(12) ***New ground of rejection.***

This Examiner's Answer does not contain any new ground of rejection.

(13) ***Response to argument.***

The argument that by adding sulfite, the darkening is inhibited before bleaching is not convincing as such would have been obvious from the teachings of ECKERT. ECKERT teaches that the reducing bleaching agents, e.g. sulphites, when added to mechanical pulp, remove or alter the lignin of the pulp such that the resultant pulp is no longer light absorbing or dark in

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color (column 1, lines 63-68). Thus the addition of a sulphite to a pulp to inhibit darkening, e.g. to inhibit darkening of the pulp by removing or altering the lignin to become none light absorbing, would be expected from the teachings of ECKERT or EVANS (column 1, lines 34-40). Clearly if the lignin is removed or altered to become none light absorbing, darkening would be prevented or inhibited.

The arguments with respect to HOVEY are not convincing as HOVEY teaches that using 3%-9% calcium carbonate filler can offset the calcium carbonate darkening that occurs when lower amounts are used (column 2, lines 60-65 and 39-47). Thus HOVEY does not teach away from brightening a calcium carbonate filled pulp. Whether the carbonate obscures or covers up the darkening would result in an overall prevention of discoloring as the pulp would be brightened and not darkened.

The desired result of WO 96/20308 and HOVEY do not differ from the desired result of the instant process does not differ from that of the applied art. The object of obtaining a brighter pulp would be the same. Although Applicant has argued that the instant process prevents alkaline darkening while the prior art brightens darkened pulp, the result would be the same, e.g. as brighter pulp without alkaline darkening. The instant claims do not specify when the calcium carbonate and sulphite are added in relation to each other. Whether or not darkening occurs would depend upon when the carbonate is added in relation to the sulphite. The specification on page 4, lines 6-14 discloses that mechanical pulp often contains sodium sulphite that is used to soften the pulp for refining and that this sodium sulfite results in a brighter pulp. Thus the addition of calcium carbonate filler to mechanical pulp would often be in the presence of the sulfite used to make the mechanical pulp, e.g. the sulphite conventionally used to soften the pulp. Claim 10 would not define over treating filling mechanical pulp produced with sulphite, e.g. the known mechanical pulp of page 4, lines 6-14, with calcium carbonate filler. Only claim 11 calls for the sulphite and calcium carbonate to be added together. This is not taught by the prior art in

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the brightening of pulp. However, the other claims would have been prima facie obvious for the reasons set forth above.

The argument that Examples VII and VIII show that when sulphite is added to the alkaline darkened pulp the results are not as good as to when the sulfite is added during the calcium carbonate treatment is not convincing as none of the claims, except 11, are limited to adding the sulphate and calcium carbonate together. The claims only require that the sulphite and carbonate be present in the pulp. It does not indicate when they are added or incorporated in the pulp. Example VII states the pulp is treated with calcium carbonate in the presence of sodium sulphite, but does not indicate when the sulphite was added. . As set forth on page 4, lines 6-14, mechanical pulp would conventionally contain some sodium sulphite remaining from the treatment during refining. Examples VII and VIII do not state when the sulphite has been added to the pulp. These examples merely treat mechanical pulp containing sodium sulphite. This would not differ from adding calcium carbonate filler to mechanical pulp produced from the known processes discussed on page 4 of the specification.

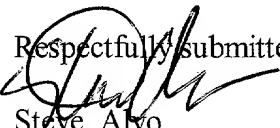
The argument that EVANS overcomes darkening due to sodium hydroxide and not to calcium carbonate is not convincing as the problem of darkening is taught by EVANS to be overcome with sodium sulfite and a carbonate. It would have been obvious to the artisan to further prevent any darkening problems in the pulp of WO 96/20308 by using a sulphite in combination with the carbonate as taught by EVANS et al.

The argument that TSUKAMOTO et al does not teach brightening of a calcium carbonate filled pulp is not convincing as TSUKAMOTO et al teaches mechanical wood pulps can have their brightness increased by sulfonating the pulp in the drying stage with alkali and alkaline sulfite. As set forth above it would have been obvious to one of ordinary skill in the art that the darkening of the mechanical pulp of HOVEY could be further prevented by adding a sulfonating agent, e.g. sodium sulfite, during the drying stage as taught by TSUKAMOTO et al to brighten

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the pulp. The use of sulfite to brighten any mechanical pulp would have been prima facie obvious from the teachings of TSUKAMOTO et al.

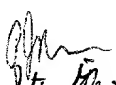
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Steve Alvo
Primary Examiner
Art Unit 1731

msa

October 5, 2003

Conferees

Patrick Ryan 

Steve Griffin 

OGILVY RENAULT
1981 MCGILL COLLEGE AVENUE
SUITE 1600
MONTREAL, CANADA H3A2Y3